

REMARKS

Claims 1-13 are pending in the present application. In the last Office Action, claims 1-4, 6, and 10-13 were rejected under 35 U.S.C. §102(e) as being anticipated by Kauppi (U.S. Patent No. 5,953,667). Claims 5, 7, and 8 were rejected under 35 U.S.C. §103(a) as being obvious in view of Kauppi (U.S. Patent No. 5,953,667) and Tiedemann, Jr. et al. (U.S. Patent No. 5,588,043). Claim 9 was rejected under 35 U.S.C. §103(a) as being obvious in view of Kauppi (U.S. Patent No. 5,953,667).

Each of these rejections is respectfully traversed. The Applicant addresses each of these rejections as follows:

35 U.S.C. §102(e) Anticipation of Claims 1-4, 6, 10-13 by Kauppi

1. Kauppi does not have a database that contains a list of cell identifiers comprising both a transmitted cell identifier and retained cell identifiers, but rather has a database that discards any cell identifier when a new one is received.

Anticipation--The present invention recognizes the need for more efficient paging mechanisms than have existed in the prior art. Historically, radio paging messages were always transmitted to all of the radio cells of the know location area, introducing a high load both for the installations of the mobile radiotelephone network that are involved in the signalling, and for the signalling channels in the radio cells. In the radio cells, the paging message is sent on control channels, and the signalling load increases proportionally for an increasing number of radio cells in a location area. Original Specification, 2/1-8.

Kauppi addresses this problem in a different way than the present invention. Kauppi achieves the minimization of paging traffic by defining a temporary subscriber-specific paging area (TPA) that the paging signal goes out in, which is smaller in size than the whole location

area (ranging from a single cell, up to a single cell and all adjacent cells in size). Kauppi, Abstract, Figs. 2-4. When the mobile station enters a cell, a timing means of the mobile station begins to operate; when a certain time expires, the mobile station initiates (in the cellular radio network) a procedure to determine the temporary paging area of the mobile station, and stores associated information, including a cell/location identifier. 2/1-9. This information, however, is discarded when the mobile station enters a new location area or initiates the determination of a new temporary paging area, since the new information is then stored and used. 2/11-14, 3/32-35. Claim 1 of Kauppi (6/33-38) indicates that the storing means stores the information "until the mobile station has entered a new location area or initiated a procedure...", thus inferring that the database does not retain any cell/location identifiers beyond the one it is presently working with. When paging a mobile station, if the mobile station is not found in the temporary paging area, the paging is extended over the entire location area. 5/13-19.

In contrast to Kauppi, claims 1 and 10 of the present invention, as amended, claim a method and system in which a list of cell identifiers is kept for minimizing the paging traffic. This list of cell identifiers is comprised of the cell identifier that was most recently transmitted by the mobile station, and retained cell identifiers that had been previously transmitted by the mobile station. Original Specification 5/15-6/3. When the mobile station does not respond to a paging directed to the last-used radio cell, then other prior earlier "last used" radio cells are used for the paging; it is only if paging these earlier cells do not evoke a response is the entire location area paged. 9/5-9. This is unlike Kauppi whose area-limiting aspect is the mechanism by which paging traffic is reduced. The limitation for the number of stored cells and the retention time is limited only by the associated storage costs. See 10/6-12.

Hence, since Kauppi is missing the element of the list of cell identifiers having retained

cell identifiers, Applicant respectfully contends that Kauppi cannot anticipate the present invention under 35 U.S.C. §102.

Obviousness--The present invention's mechanisms both in the system and method, are not obvious variations of Kauppi either. In Kauppi, the mobile station itself must be modified
5 in order to initiate the update procedure; this involves software and possibly changes in the mobile station (see Kauppi 5/27-33). Kauppi also requires the addition of a timer to the mobile station. These changes are unnecessary in the mobile phone in the present invention. The present invention, by virtue of retaining a list in the network database does not require any modifications to the mobile station; the mobile station does not carry out any
10 supplementary signal processing--all calculations and estimation work is carried out in the network.

Kauppi discusses a procedure for determining the expansion of the temporary paging expanding areas. See 5/4-26. The complex determination of paging area expansion suggested in 5/4-12, or the simplistic, but inefficient expansion to the entire location area once the
15 temporary paging area and its adjacent cells have been exhausted would not have been utilized in Kauppi if the list mechanism of the present invention were utilized. Hence, since Kauppi utilizes a scheme based on the construction of various temporary paging areas, and on modification that would have to be made to the mobile phone, it cannot be said to make the list having retained cell identifiers in the present invention obvious.

20 The above arguments apply to independent method claim 1 and independent system claim 10, both, as amended.

35 U.S.C. §103(a) Obviousness of Claims 5, 7-8 in view of Kauppi and Tiedemann

2. Neither Kauppi nor Tiedemann disclose or suggest the use of the list of retained cell identifiers.

Applicant does not disagree with the Examiner's assertion that Tiedemann teaches the storing of the time of last registration. However, Applicant contends, as argued under paragraph 1 above, that the important element of the list of retained cell identifiers is the component missing from Kauppi that Tiedemann would be required to teach to render the present invention obvious. Since neither reference discloses nor suggests this approach, then Applicant respectfully contends that the element that Tiedemann is being cited for is irrelevant, based on the arguments presented above, and that the combination cannot render independent claim 1 as obvious, nor the dependent claims 5, 7, and 8. Applicants note that Tiedemann deals with zones comprised of a plurality of cells, and not at a granularity of individual cells themselves--Applicant respectfully contends that absent a teaching or recognition in Tiedemann of cell level granularity, there is no motivation to combine the teaching with Kauppi.

35 U.S.C. §103(a) Obviousness of Claim 9 in view of Kauppi

3. Refer to the obviousness discussion under paragraph 1 for the argument of nonobvious of independent claim 1, from which claim 9 depends, in view of Kauppi.

Applicant respectfully asserts that independent claim 1 is nonobvious for reasons cited above, and that an argument related to the element of identifiers being sent according to a packet data service are therefore unnecessary.



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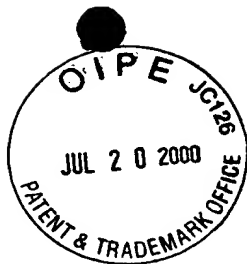
Information Disclosure Statement

4. Applicant is subsequently filing a translation of the article referenced by AO in the Information Disclosure Statement dated 3/3/98 and thus will in compliance with the requirements of 37 CFR 1.98(a)(3) upon receipt.

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5 The Information Disclosure Statement filed 3/3/98 and associated form PTO-1449 identified three foreign language references, identified as AK (German Patent DE 19524659), AL (German Patent DE 4332758), and AO (Biala article), but did not include a concise explanation of relevance. Applicant filed a Supplemental Information Disclosure Statement on 2/8/00 which provided English language translations of the abstracts and a concise explanation of relevance for the German patents, but omitted a discussion of the relevance of Biala. Applicant is submitting an Information Disclosure Statement subsequent to the filing of this amendment that includes an English language translation of the Biala article and request that the Examiner consider its contents.

15 A typographical error on the IDS form PTO-1449 filed 2/8/00 indicated that it was sheet 1 of 2. The sheet should have indicated that it was sheet 1 of 1--the IDS did contain the appended translated abstracts. Applicants have resubmitted the Supplemental IDS filed on 2/8/00. Please note that this Resubmission of Supplemental IDS should not be confused with the IDS to be subsequently filed that includes the translation of the Biala article.



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Conclusion

Applicants have amended independent claims 1 and 10 to clearly distinguish over the art cited against it. Applicants believe that no new matter has been added by the above amendments.

Inasmuch as each of the rejections have been overcome by the amendments and arguments presented, and all of the examiner's suggestions and requirements have been satisfied, it is respectfully requested that the present application be reconsidered, the rejections be withdrawn and that this application be passed to issue.

Submitted by,

Steven H. Noll (Reg. No. 28,982)
Steven H. Noll
Hill & Simpson
A Professional Corporation
85th Floor - Sears Tower
Chicago, Illinois 60606
(312) 876-0200 Ext. 3899
Attorney for Applicant(s)

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